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Journal of the Society of Arts.

FRIDAY, SEPTEMBER 7, 1855.

THE CAMP AND BARRACK SANITARY CART AND PORTABLE LATRINES OR SOIL PANS.

By JAMES BIRD, LATE SURGEON ROYAL GLAMORGAN MILITIA.

It is a well-known fact that the health or otherwise of troops, or of any other closely-congregated community will depend mainly upon the precautions taken in respect to its refuse matter.

The alvine secretions when fever or dysentery prevails, become rapidly putrid, and generate poisonous emanations intensely contagious to healthy persons exposed to their influence, while the accumulated dejections of persons in health, if not absolutely pernicious, are obnoxious in many ways.

It must be obvious, therefore, that the early and complete removal of all fæculent matter from camp or barrack is the primary and fundamental means of securing the health of troops, and of arresting the ravages of disease, and without this all other precautions are vain and ineffectual.

These remarks apply with double force to tropical climates.

It is intended to effect this by means of the sanitary cart and portable latrines, or soil pans, as constructed by order of the Government for experimental trial at Aldershott. The cart and latrines are of wood and iron, each latrine being 5 feet long, 18 inches wide, and 2 feet 6 inches deep, and capable when full of holding about 115 gallons: there is a spindle at each end, fixed eccentric, and a moveable cover, to be used when the latrine is carted away for the purpose of being emptied. Previous to removal a yoke is attached to each spindle—the yoke having side-triggers which preserve the latrine in an upright position, and admit of its contents being readily discharged. The cart is constructed on two wheels, having two arms projecting from the back, and resting upon the axle, with curved extremities adapted to the yoke. The shafts act as the long arm of a lever, the axle being the fulcrum. By this simple contrivance one latrine at a time can be removed with great facility, without risk of overflow, and its contents deposited without any manual labour being necessary either for filling or baling out.

By an arrangement the bottom of the cart can be extended so as to admit of four latrines, with the yoke, cover, and other appurtenances being packed up conveniently for travelling.

Noiseless wheels might be fitted to the latrines, when intended for hospitals, or other buildings of a permanent character, for the more easy transmission to the cart, and in such cases one cart would be sufficient for an indefinite number of latrines.

The cart and latrines, as constructed for Aldershott, were manufactured by Mr. Swan Nash, ironmonger, 253, Oxford-street, and may be seen on application.

The cart may be made to work by manual labour.

HANTS AND WILTS EDUCATIONAL SOCIETY.

The Annual Meeting of this Society, and the Conference of Institutions in Union, was held at Southampton on Wednesday, Aug. 22, and the proceedings throughout were of the most interesting character. The engagements of the day commenced at twelve o'clock, at the Audit-house (the use of which had been kindly granted by the Mayor), and where a large number of gentlemen assembled together to take counsel as to the best means of furthering the Society's objects, and promoting the general cause of education amongst the people.

The following gentlemen were present, either as members of the Society, representatives of Institutions, or visitors:—

The Rev. Dr. Booth, F.R.S., Chairman of the Council of the Society of Arts.

Edwin Chadwick, Esq. (formerly of the Poor Law Board, and the General Board of Health).

Sampson Payne, Esq., Mayor of Southampton.

John Tyndall, Esq., F.R.S., (formerly Professor of Chemistry at Greenwood College).

The Hon. and Rev. S. Best, of Abbott's Ann, Andover; Wyndham Portal, Esq., of Malshanger, Basingstoke; and the Rev. Thomas Bacon, King's Worthy, Winchester—Secretaries of the Society.

E. W. Faithful, Esq., Winchester—Treasurer.

The Venerable Archdeacon Wigram; Charles Sartoris, Esq.; George Edmondson, Esq., Queenwood College—Members of the Committee.

E. E. P. Kelsey, Esq., Salisbury—Secretary for Wiltshire.

Messrs. J. R. Stebbing (President), T. Falvey (Vice-President), H. Pond (Secretary), and J. Bostock (Curator)—Southampton Polytechnic Institution.

R. B. Critchlow, Esq.—Local Secretary at Southampton, and Secretary of the Southampton School of Art.

Mr. Thomas Beard—Basingstoke Institute.

Mr. F. W. Bushell—Basingstoke Mechanics' Institute.

Mr. J. M. Goodinge—Andover Institute and Library.

Mr. H. Moody—Museum, Winchester.

Mr. J. W. High—Central School, Winchester.

Mr. James Calvert—Alresford Institute.

Mr. Conway Chester—Hayling Island Institution.

Mr. J. K. Kane—Secretary Portsmouth, Portsea, and Gosport Church of England Young Men's Association.

Charles J. Tylee, Esq.—Secretary Romsey Reading Society.

Rev. John Compton—Lyndhurst Literary Institution.

Revs. J. Gray (Dibden), W. D. Morrice (Longbridge Deverill), C. B. Knight, J. Norton (Southampton), W. Brodie (Alresford), J. A. Scott (West Titherley), A. M. Bennett (Bournemouth), E. Simms (Wilton), G. Prothero (curate of Whippingham, I.W.), J. Power (curate of St. John's, Portsea), J. Tanner (incumbent of St. Matthew's, Gosport), J. Williams (Petersfield), N. Smart (Alderbury), G. S. Fitzgerald (Southampton), W. H. Tribe, B.A., Oxon.

J. H. Forbes, Esq., Merry Oak; T. J. Turner, Esq., Worthy Park, Winchester; L. Owen Fox, Esq., Broughton, Stockbridge: A. S. Bennett, Esq., Bournemouth; C. E. Deacon, Esq., Southampton; J. R. Keele, Esq., ditto; Drs. Harvey and Wilmot, ditto.

Messrs. E. R. Baker, Kingsworthy; — Christie, Newport, I.W.; Charles Gedge, Brighstone, I.W.; A. T. Smith, Dunstable; D. Savory, Southampton; G. D. Snow, Farringdon; — Macfarland, Petersfield; S. Stevens, &c.

At twelve o'clock the proceedings commenced by Archdeacon Wigram moving that the Rev. Dr. Booth, F.R.S., Chairman of the Council of the Society of Arts, be requested to take the chair, which was seconded by Mr. Stebbing, and carried with acclamation.

The Rev. Dr. Booth, F.R.S., in taking the chair, gave a brief history of the movement which had resulted in the union of Literary Institutions with the Society of Arts. Following the Great Exhibition of 1851, Mr. Chester and other gentlemen, wishing to bring together the scattered Institutions of the country, took active steps with a view to effect that object, and convened a meeting of representatives in London in 1852, at which great suspicions of centralisation were entertained; but those suspicions had gradually subsided, and, beginning with about thirty or forty, there were now four hundred Institutions in Union with the Society of Arts. (Hear, hear.) All interference with the management and operations of the respective Institutions was carefully avoided, and they

were realising the advantages provided by the union, the principal of which were the procuration of books at reduced prices, the providing lists of lecturers, and lending out collections of photographs, &c., for local scientific exhibitions. Such efforts had previously been attempted to be carried out by means of local unions, but these did not enable them to grasp all the advantages arising from a general union of institutions throughout the country. He would point out why at the present time such an union was especially important, and here he would say that his remarks would be entirely free and dissevered from all political opinions. Twenty-five or thirty years ago the Government of this country, though apparently constituted in the same manner as now, was really very different from its constitution at the present day. Then the Government of the day took up measures on their own convictions, carried them through with a high hand, and their only alternative was resignation in case of failure. But there was a great change now. The Government of this country was more truly called an administration—a collection of official persons, whose duty was not so much to carry out what they themselves thought right as what the people required. They introduced measures, changed them, and modified them, to meet public opinion. They must first agitate before they could legislate. Measures, however important, could not pass through the legislature unless public opinion forced them on. As illustrations of this opinion might be mentioned the passing of the Reform Bill, and the Repeal of the Corn Laws. This rendered the union of literary and educational Institutions most desirable and valuable at the present time, for if any measure came fairly within their sphere of operations, such an organisation would enable them to bring their power to bear upon the legislature, and through the legislature the cabinet of the day. (Hear, hear.) These 400 or 500 Institutions included from 80,000 to 90,000 intelligent men of the middle classes, who would by means of the union be enabled to press any important measure on the Government of the day, and thus this union would be a most important step in promoting the education and improvement of the people. It had been objected that Mechanics' Institutions had not been availed of by the men for whom they were intended. This was partially the case, and arose from the fact of putting the cart before the horse. They ought to educate the young so as to imbibe in them the taste for Mechanics' Institutions when they grew old. (Hear, hear.) With reference to one of the topics on the paper for discussion—the formation of classes, he would mention the movement recently made in the East India Company relative to certificates for attaining official positions in that Company. None were more interested in such a movement than the members of these Institutions, the question being whether positions of importance and influence should be thrown open to every freeman in the community, or, as heretofore, be gifts to the select few,—he might almost say instruments of bribery and corruption. (Hear, hear.) It was the birthright of every freeman to compete fairly and freely for public appointments, and he thought that no measure of greater importance could now be impressed by the united Institutions on the attention of Parliament, than the securing of free ground for all, so that the children of the most humble working man in the country should be enabled to make their way to the highest positions in the State. (Loud applause.) That was the theory of our constitution, but it had hitherto been widely departed from. (Hear, hear.) He would no longer detain the meeting, but would remark that in the Society of Arts they had a very wholesome and excellent rule—to allow five minutes to every speaker (hear, hear), a rule which had always worked well, and which, he thought, if introduced into a higher assembly, would be attended with very beneficial results. (Laughter and cheers.)

The Hon. and Rev. S. Best, one of the secretaries, then read the following report:

In presenting their report for the year ending September 1, 1855, it will not be necessary for your Committee again to refer to the origin and objects of the Society. The prospectus explains the objects; and the List of Diagrams, Models, and Apparatus, indicates the means, or some of the means, by which it is proposed to carry out those objects.

Your Committee congratulate the members on the great success which has attended this first effort to carry into Provincial Districts the advantages which have been hitherto confined to the more central organisation of the Metropolis, and the larger Capitals of Manufacture and Commerce. The improved reports, and more confident and cheering tone of the correspondents of the Society, the removal of prejudices, and the awakening interest of many who long stood apart in distrust, have given courage to your Committee to proceed in a work which they believe to be identified with the best interests of the community, as a very powerful aid to social, moral, and religious improvement.

With the aid of a large and increasing staff of Local Secretaries, your Committee is carrying the operations of the Society into all parts of Hants and Wilts; and with a view of extending its agency, it has now been resolved that of the three ordinary meetings of the year, one shall be held in January, at Salisbury; one in May, at Winchester, and one, the General Annual Meeting and Conference of Institutions in Union, in August, at such place in the two counties alternately as may be thought by the Committee to offer the greatest advantages for re-union, and for the discussion of the interests or wants of the localities and the proposed objects of the Society. Under these regulations the present meeting is held, and your Committee feel bound to tender their best thanks to the Mayor and authorities of Southampton, as well as to their enlightened friends and co-operators, for the kind reception and assistance extended to them.

Referring to the title of the Society, the means proposed for promoting mental improvement are Libraries, Reading Rooms, and Lectures. Taking a review of its operations, in this order, there has been but one application under Rule 9, within the past year, for a grant in aid of the establishment of Libraries, whereas three were made in the preceding year. But the question, as bearing on Libraries has assumed another, and, perhaps, a more satisfactory form; and, the Secretary "for Libraries and Book-purchases" reports "that, during the past year, he has received six orders for books from Institutions in Union, amounting, in the whole, to about 170 volumes. The full price of these books amounted to about £27 4s., but they were supplied to the Institutions, through the Society of Arts, at £20s. 7s.; that is. at a reduction of more than 21 per cent. It is gratifying also to be able to state that, of the 170 volumes ordered, nearly 100 were supplied by the Religious Tract or Christian Knowledge Societies, the remainder being travels, histories, and standard works of fiction."

Your Committee regret that answers have not been received from very many of the Institutions in Union, or they should have been enabled to lay much valuable statistical information on the subject of Libraries before the meeting. From the returns, however, of seventeen Institutions, it would appear that their Libraries, varying from 70 to 4,000 vols., contain 16,189 vols.; and it further appears that during the last year they have added to their Libraries, by purchase or presentation, 1,775 vols. The character of the books read is not so entirely satisfactory; although in many of the returns, "History, Biography, and Travels," indicating a desire for sound and practical information, form a very conspicuous item.

On Reading Rooms, Classes, and Examinations, the Secretary for that department reports that 17 Institutions, many of them reading rooms in the rural districts, have been added to the list of Institutions in Union; and that many others are known to have sprung up since, and, indeed. in consequence of the movement of the Society, some of which have made returns to our circulars, and yet, from some unexplained cause, have not yet placed themselves in Union. With respect to Reading Rooms, it is satisfactory to find how very general they are becoming, and that the want of them as a means of carrying forward the education of those whom our Schools have sent into the world, is generally acknowledged. From one Reading Room, in a small rural population, the Secretary writes that "It consists of 20 young men, whose time, prior to the formation of its Classes, was spent in idleness and mischief. To a certain extent, they have been snatched as it were from destruction." This is typical of the whole class. Others are spoken of as "progressing favourably," as "fairly successful," and as ex-

exciting an interest in all classes who are desirous of rendering them equal to the purposes for which they are established."

In 10 out of the 16 Institutions which have returned answers, it is reported that classes have been established with varied success; and in two others, that they hope to establish them this winter. Your Committee respectfully, but earnestly, draw the attention of the members to this subject, as a very important field of the Society's labours.

On the subject of Examinations, your Committee regret that they can refer to no instance of the requisitions of the Society of Arts being complied with; but, confident of the expediency of the proposal which has been made, and of the growing importance of the question, they are very desirous of drawing to this point the attention of the Representatives of the Institutes in Union. It is one of the subjects placed on our list for discussion this day; and it is hoped that its full and temperate consideration will bring out the points of interest by which the measure recommends itself to our adoption.

The Secretary for the Department of Lectures and Diagrams reports that during the past session 18 gentlemen responded to the call of the Society, and kindly placed their talents at the service of the public, by the gratuitous delivery of not less than 95 Lectures before Institutions in Union. The subjects were chiefly of a scientific and literary character; and the lectures were for the most part well attended by mixed audiences, the middle class predominating. The diagrams were in constant request, nearly all the Institutions in Union having profited by them.

The Lecture List for the ensuing Session bears gratifying evidence of the increasing popularity and usefulness of the Society, 35 gentlemen having promised to deliver in all 143 lectures before such Institutions in Union as may claim their services. A large addition has been made to the diagrams and models, and considerable improvement is being effected in their arrangement at the depository.

In consequence of the enlarged operations of the Society, it has been considered expedient to divide the official duties into three departments, as already referred to, and to place the diagrams, models, and apparatus, under the charge of a paid officer, with the title of Assistant-Secretary and Curator. This duty has been confided to Mr. Etheridge, of Jewry-street, Winchester, in whose house the Depository of the Society is established; and, for the convenience of members, a small room has been fitted up, in which the diagrams, &c., can be consulted, and in which pens, ink and paper, fire and candles, will be provided by Mr. Etheridge, at a fixed charge. It is hoped that, in this manner, the convenience of members has been provided for. The Depository is as near as may be to the Railway.

Your Committee would further report, and with great satisfaction, that the principles upon which the Society is based, and its mode of operation, have met with the entire approval of the Council of the Society of Arts; and that, as in the case of the "Berks and Bucks Educational Society," sister societies have sprung up, adopting the same principles, and in furtherance of the same objects.

The report having been received and adopted, the meeting proceeded to discuss the various topics on the programme. 1. Book Hawking and Itinerant Village Libraries. 2. Catalogues of Books for Institutes and Reading Rooms. 3. Classes, School Certificates, and Examinations. The three latter topics included under the third head the Chairman suggested should be taken together; viz.:—"The encouragement of Classes, and the means of promoting them; School Certificates, as preparatory to those proposed by the Society of Arts; Examinations, as proposed by the Society of Arts."

The Hon. and Rev. S. Best said he appreciated at their full value the importance of lectures, as essential means in the progress of education, but they should be considered only as accessories to classes, in which study and real instruction could only be pursued with permanent success.

Mr. CHADWICK, C.B., said he attended upon an invitation arising from a knowledge of the consideration he had given to the bearing of examinations for the public service on educational institutions; but in taking part in this discussion he was only returning to what was to him an old field, for some thirty years ago, before he entered into the public service, the first part he ever took in public matters was in lending humble aid to his late friend Dr. Birkbeck, in the formation of mechanics' institutions; and he was a vice-president of two of the first that were formed, after the chief institution, in the metropolis. In entering upon the subject of public examinations as tests of educational merit for the public service, he did not think he should be obnoxious to the charge of any serious infringement of the understanding not to enter into party politics, for appointment for merit was an admitted principle by the heads of the chief political parties—Lord Derby, Sir E. Lytton, and Lord Stanley on the one side, and Mr. Gladstone and Sir Stafford Northcote and a large body on the other, having expressed concurrence in the principle. The main question was, however, by what means could the principle be best tested and its application enforced? There were few who might not as readers have exercised the faculty of reading on one subject to an audience, and having their thoughts directed at the same time to another; whilst pupils hearing lectures, having the semblance of close attention, have nevertheless their thoughts elsewhere. But when the pupil is to be questioned afterwards as to what he has heard, he gives another sort of attention. The cure of this inattention, the remedy for the failure of lectorial instruction, his friend, the chairman, pointed out in a pamphlet, entitled "Examination the Duty of the State," in which he adverts to the failure of the merely lectorial system of tuition without subsequent examination, and examination of a stricter character anticipated much of the present thoughts on the subject. His (Dr. Booth's) view as to the necessity and importance of public examinations had been recognised by all the affiliated institutions, and by the parent institution as means to insure sound instruction. The commissioners of inquiry into the means of improving the education at the University of Oxford had given a definition of the qualities required for efficient examinations, which he (Mr. Chadwick) begged leave to quote from the report of the Society of Arts on industrial instruction, as showing the progress of concurrent but independent opinions on this subject. Those commissioners say that "to render a system of examination effectual, it is indispensable that there should *be danger of rejection of inferior candidates*, honourable rewards and distinctions for the able and diligent, with examiners of high character, acting under immediate responsibility to public opinion." Now whilst the Chairman and others were showing the necessity of substantial rewards, and stricter examinations of a public character, with prize scholarships, as stimuli for educational institutions; whilst the Oxford inquiry commissioners, and other combatants against ignorance were saying these things, Sir Charles Trevelyan, and Sir Stafford Northcote, Mr. John Wood, of the Customs, he (Mr. Chadwick) and others of the largest experience in office, remonstrants against the evils of ignorance and incompetency prevalent in the public service, were independently saying much the same things as to the nature of the examinations requisite, in the first instance, for the correction of those deplorable evils. Whilst they were contending for open and competitive examinations as the only safe test of educational qualifications for the public service, others out of doors, promoters of educational institutions, were looking to more than honorary distinctions, as real rewards to the diligent, and necessary inducements to attention, and to undergo the requisite ordeal of examinations, and were regarding the appointment to public offices as prizes necessary for the advancement of general education. Here, then, from different starting points, they, with a large body of thinking persons who had hitherto taken no part in public questions of any sort; but, moved to the like conclusions by impressions derived from the extraordinary events of the times, were brought to a common field, for a concurrence of opinion, and it was to be hoped, a union of forces. The attention of all leaders of educational institutions had recently been arrested by the first conspicuous example which we have gained of public competitive examinations

for appointments—he meant for the writerships in the Indian service—which, be it noted, were appointments leading to eventual emoluments of £4,000 or £5,000 per annum, equalling the pay of Cabinet Ministers, and having jurisdictions, wider often and more important perhaps than in former times belonged to lords-lieutenant. Every one knew the difficulties under which parents were placed to judge of the positive or relative merits of particular seats of learning. By the new arrangement definite tests were provided from year to year, which would aid their judgment as to where they should send their children. He would ask them to regard the new impulse which these examinations will give to the heads of colleges and others to be wakeful and keep up with each other and with the time, under the sure penalty of immediate desertion? Look next at the aid and relief the examples give to the competent and willing teachers, in the stimulus it gives to the attention of flagging pupils, who could not at present be got to work for distant, indefinite, or uncertain objects, on whom this annual gaining and losing, not only of honours, but of large substantial prizes, must make the strongest impressions. Now, this new power, gained by those competitive examinations for medical appointments, as well as by the competitions for cadetships now going on—a power gained for the educational institutions which were appropriated to the wealthier classes, was of a species which just met the pressing wants of parents, pupils, and teachers, in respect to the schools for the middle and lower portions of our industrial communities. He submitted they met the chief weaknesses and failures in the special class of institutions in this union. Competitive examinations for certificates of competency for school teacherships inducted under the auspices of the committee of Privy Council, afford, by the use made of them, important evidence of the value of competitive examinations as authentic and trustworthy tests of the market value of qualifications for commercial service. The effect of those examinations of competency for school teacherships, of some £70 per annum, or more, had been to call forth qualifications or clerkships of £100, and £150 per annum, in the commercial labour market; and as Parliament, with wasteful parsimony, did not choose to pay the proper market value of tested educational qualifications, the successful competitors have used their certificates as a means of obtaining more lucrative commercial clerkships, or clerkships to engineers and manufacturers; and he was assured that some of these successful candidates were answering so well, that future men of wealth and position in commerce and manufacture would have owed their prosperity to these competitive examinations. The new certificates of competency, obtained upon competitive examinations conducted at the school of practical art at Marlborough-house, between pupils of the local institutions, with the pupils of the central institution itself, and comprehending many of the higher classes of artizans, begin to afford similar promise of success. He was assured there could be no doubt that similar certificates of competency, awarded upon competition by known and responsible examiners, would furnish a means for raising talent from the lowest ranks, and would be of great convenience to employers whose time was valuable, and whose own means of mutual examination were very limited. Depend upon it, that no office in the public service which is high enough for the labour of pursuit as an object of public patronage, is too low for educational competition. Other considerations on the side of the interests of education will be suggested by the experience and observation of those present. He would advert to the claims of the public to educational scholarships as means of administrative improvement. Lord Wrottesley, the president of the Royal Society, whilst agreeing in the general principle, took exception to what he considers the depreciatory manner in which the qualifications in abstract science had been spoken of. Now, whilst he was still of opinion that we should contend for the special and the practical as against the general and the abstract—and he still thought the subject matter of the examinations for the writerships open to objections as being too scholastic—yet even as they were, he must admit and declare that the evidence was decisive, that they were a great gain to the public and to India. Sir Charles Trevelyan, who himself studied at Haileybury, attested the fact, that the same men who were failures at the college were the same who were failures in office, and "hard bargains" for the public. Mr. Hopkins, the late president of the Geological Society, attested upon thirty years' observation and intimacy with them, that those who gain academical honours are not merely better mathematicians or better classics than those of lower degree, but that they were men of greater intelligence and higher capabilities, and that in habits of accuracy, punctuality, and industry, and in all that distinguished the man who did as much as he could from the man who did as little as he could, they were as a class greatly superior. He, Mr. Hopkins, equally maintained their superiority in moral qualifications. It would, therefore, admit of little doubt that while educational institutions and private individuals have under the new system of competitive examinations gained prizes, the public and the civil service in India have gained prizes also. There will, on consideration, be found, when looked at with a will and a practicable desire to render them available, as little cause for doubt that the same principles were as applicable to appointments to inferior positions, for which your institutions are adapted, to promote qualifications; and that in respect to them your educational institutions would gain, the public service would gain, as well by the sort of persons open competitions would exclude, as by those which they would admit. He would only refer to the public expressions which the heads of private parties have given of adhesion to the principle of appointments for merit, whatsoever hostility is manifested by their tails to the only proved and undoubted means by which merit for the public service can be tested. He would express a confident opinion that whilst inquiring as to the probable intentions of the government, the particular minister who may have the subject in charge will in all probability be looking out and inquiring, with a view to his own course, what are the intentions of his constituents. The patronage secretary, it is known, declares that the patronage is indispensable to his supporters. His supporters, the borough members, many of them declare that they would be glad to be rid of patronage, but that they require it to meet the pressure from their supporters, their constituents. He said the borough members, because it was a mistake to assume that the body of the patronage which would be applicable to general educational institutions such as those now under consideration, or those classes of appointments in respect to which the question of open competition has been raised, are of an aristocratical character. Very little, indeed, of the patronage for the junior appointments to the more numerous vacancies, is given to the county members—the mass of it goes to the borough members. He would say, therefore, it is you, Mr. Mayor—not you, perhaps, individually, but those whom you represent—who are responsible for the continuance of the evils in question, and it is for you, the constituencies of boroughs such as this, to adopt a self-denying ordinance against those foul abominations. Of the patronage maintained by you, it might be said that it is, like party, the occasion of the madness of many for the gain of the few—usually the supposed gain, for commonly it is as injurious to the receiver as it certainly is to the supposed giver, the State. The borough would gain its share of prizes to its schools and educational institutions, and their purifying influence, in substitution for the patronage and the corrupt influence which you would give up. He would ask the meeting to consider whether it would not be a gain, in moral influence at least, that the Queen's uniform worn by the postmen were to denote that it had been won by merit by the wearer, as a prize scholar of a village or a diocesan school, instead of its being the badge of political

partizanship, denoting that the wearer had been a hanger-on to one of an electioneering committee? Did the meeting conceive that the amenities of the Customs officers in your port, or that the despatch of business there would suffer, if the appointments to the Customs were given as prizes to the most attentive and successful students, instead of to the prosecutors of party contests? In the Government dockyards there are foremanships, surveyorships, and places for artizans requiring the qualifications of practical mechanical science, which you are trying at your mechanics institutions to promote, but are failing with those classes for want of sufficient motives. Would not the navy and the public be better served by appointments given for prize scholarships in mechanics than by appointments made as bribes for votes in the way displayed before the committee and the country in the dockyards committee? At no great distance there was the New Forest, and some extensive public lands. If the appointments at least to subordinate offices for their management were given upon competitive examinations for special qualifications in the science of botany or in aboriculture, might we not expect a fairer amount of produce, and better economical results and examples than were displayed before successive Parliamentary committees of inquiry? I believe that there are some 16,000 public places, of various grades, the majority of which are at the same time applicable both to the improvement of almost all grades of educational institutions and to the improvement of a most defective civil service, as several civil servants of extensive experience represented, before any defects were made manifest in extraordinary public disaster. It might be shown that for all which the inhabitants of the borough constituencies gain in occasional patronage, the people, yourselves, are made to pay severely in general taxation. In consequence mainly of this patronage, for the continuance of which the inhabitants of the boroughs are chiefly responsible, in many instances, more is paid for double the number of badly-appointed officers than would suffice under a purer system for the better dispatch of the public business. The maintenance of patronage appointments by popular constituencies he (Mr. Chadwick) must declare were in violation of individual popular rights; for that which is talked of as a new morality is an old statutory right, and a right at common law, declared by Lord Coke in his Institutes, that the most fit individual has a right to fitting office, whilst the State has a right to his services. There are those here who, as local ratepayers, it is known have had experience of the benefits derivable from the adoption of better practice in respect to local appointments. The general poor rates were once 8s. 6d. per head on the population, and increasing. They are now 5s. 6d., and the care of pauper children, the medical relief, and the general administration of relief is improved. The first step to this improvement, by which two millions per annum, and more, has been gained, was the abolition of your local patronage in appointments, your appointments of officers for such causes as that they had failed in trade, or had a large family with small means of supporting it, and the patronage was nearly put an end to by taking practical securities for the improved qualifications of officers, chiefly by competitive examinations. The like results would follow the application of similar means to the general public administration. It seems that the present meeting is understood to be for a conference simply, and that it is not understood that resolutions are to be proposed in a formal manner. I think sufficient facts have been brought before the meeting to enable those present to judge of the course which they ought to take at once, as constituents, and as heads of families, and hereafter as members of educational institutions.

Mr. FALVEY said there was certainly a general agreement gaining strength in society of the importance of the views represented that day by Mr. Chadwick. The main difficulty felt at present upon the subject was in the appointment of examiners sufficiently responsible. What securities could be proposed in respect to them?

Mr. CHADWICK said that the difficulty was, he apprehended, in great part, and indeed sufficiently, met by making the examinations competitive. It was, in truth, the chief ground of the importance attached to competitive examination by the official supporters of the measure, that the competition was a strong security against misdecision on the part of the examiners. In private and departmental examinations the "leaping bar" might be, and it was not unfrequently, lowered to favour the passage of a particular candidate. In the public and competitive examinations this could not be safely done; the rival candidates and their friends, if not the general public, would be enabled to detect any unfairness, and the decisions, involving comparisons of relative merits, were necessarily of a judicial character, involving judicial securities. The evidence of actual experience would be found complete and satisfactory on that point. He had omitted to mention that the competitive examinations for medical appointments in India, of which no account had yet appeared before the public, had afforded the most valuable, complete, and decisive experience of the dangers of the common "pass examinations" for degrees, which fully justified the objections to the present departmental "pass examinations." The new competitive examinations proved that under the common pass examinations men obtained degrees to practise as surgeons and degrees of doctors of medicine who were in a state of the most dangerous ignorance of the common requisites for the safe practice of their profession. Several doctors of medicine had been plucked for scandalous ignorance. The only protection of the public would be found in the institution of new competitive examinations.

Mr. STEBBING, of Southampton, said that he had no doubt whatever that the borough corporation might be got to give up their political patronage. He would undertake to say that in Southampton there would be little difficulty in the matter. Indeed, it was now very generally felt to be a nuisance.

Professor TYNDALL looked upon lectures and classes as complements of each order. Lord Lansdowne had recently remarked, more than once, in the House of Lords, that there was no reserve of power in the country to lift men into office. He (Professor Tyndall) believed that there was, but that the talent was latent, and only required development. The revered Faraday had risen from the humblest ranks, and there were hundreds of Faradays in the country if the proper applications for study were only put in requisition in these Institutions. Examinations ought to bear upon the practical destiny of the student's life, or there would be much waste of power.

Mr. BEARD briefly detailed the steps taken by himself and friends at Basingstoke, in the formation of the Mechanics' Institute, and classes for the study of Music, French, &c.

Mr. W. PORTAL feared that the objection of working men to mix with their superiors in station was one great drawback to the desired full success of Mechanics' Institutions, and suggested, as a thought for the consideration of the meeting, whether their progress would not be facilitated if the wealthier classes gave such institutions all the pecuniary support in their power, but left the management entirely to the working men.

Mr. POND gave a brief sketch of the evil results arising from the distinction of classes in the past history of the Southampton Polytechnic Institution, in which there was now the most perfect development of liberty of opinion, and nothing whatever was known in its management of creed, party, or difference of social status. Whilst he would deprecate the aristocratic usurpation of management in these institutions which would exclude working men from their fair and legitimate influence, he should equally regret to see such an invasion of the democratic element as would shut out those higher in position. The two must work freely and harmoniously together, and with men of wealth like Mr. Portal on the one hand, and the working men earning their humble weekly stipend on

the other, each struggling for a common educational purpose, society would be benefitted. They could not afford to lose the administrative abilities of such men as Mr. Portal, and he hoped that that gentleman's suggestion would never be adopted.

The CHAIRMAN followed in the same strain, and observed that the whole tendency of society at the present day was to break down the social barriers which had heretofore divided them from each other, and they should do nothing whatever calculated to foster class prejudices.

Mr. STEBBING remarked on the crippled state of the institution in Southampton for want of room, which was felt in many other places, and thought it would be well if the State would provide the means for building lecture-halls, in which classes, reading-rooms, &c., could be formed, so as to offer inducements to working men to quit the beer-shop and the public-house. They had in Southampton recently been compelled to build a new gaol, at a cost of £30,000; if £1,000 had been spent on a reading-room, museum, and library, that huge building, he believed, would not have been required.

The CHAIRMAN asked Mr. Stebbing if he was aware of Mr. Ewart's recent Act, to enable towns to rate themselves for libraries and museums?

Mr. STEBBING said that did not meet his idea; it would ot allow them to erect buildings, or hold lands.

Mr. CHADWICK, the Rev. T. Bacon, Mr. Faithful, Mr. Falvey, and other gentlemen, followed in support of the views to which utterance had been given.

Mr. PORTAL, in reply, expressed the pleasure he felt at the interesting discussion which his suggestion had elicited. He hoped that not a single person in that hall misunderstood him as wishing to keep open the breach between the higher and lower classes; his only idea was, whether working men would not have greater confidence in such Institutions if their own management were not intefered with. He remarked on the awful extent of juvenile delinquency, and mentioned an instance which had recently been brought under his notice, of a boy, only 14 years of age, who had been imprisoned fifteen times. He was sure that no endeavours would be too great to rescue some of these unfortunate boys from the path of crime, and he hoped that the attention of this Society would be partially directed to this benevolent object. A humble attempt had been made by himself and a few friends, by the establishment of a Juvenile Reformatory, at Eling, and he earnestly trusted that their exertions would be productive of some good. He would suggest to the Southampton Polytechnic Institution, and other large organizations in towns, whether they might not attach to their machinery a sort of Ragged Mechanics' Institution, for the education and instruction of those who would not otherwise join them.

On the motion of the Mayor, seconded by Mr. W. Portal, the thanks of the meeting were voted by acclamation to Dr. Booth, for his valuable assistance in presiding over the meeting.

The CHAIRMAN, in returning thanks, expressed his satisfaction at the unanimity which prevailed amongst all parties on the subject. He referred to the report on industrial instruction adopted by the Society of Arts, to reimpress them with the dreary position of the middle class not intended for the universities, whose motives to exertion were as few as they were feeble. The youth of that class knows that he must remain at school for a certain period, and then proceed to business; but he cannot discover how his diligence there can have any perceptible effect upon his future prospects in matters having so few points of resemblance as science or literature with commerce, ignorant of the fact that success in each is achieved by the same instrument. Now, were he certain that on leaving school he must go before an impartial tribunal, and there be subjected to a most searching examination, and compared with boys from other schools, what a powerful motive to exertion would be at once supplied. Baron Liebig, in a communication to the Oxford Commissioners, said, "Without examinations all efforts are useless, and no scheme of instruction has any perceptible effect. I am supported in my assertion by an experience of 27 years, and I can assure you that even amongst our medical students, the study of natural philosophy, of chemistry, and of geology was utterly neglected until we determined to divide the examinations of the students into two, namely, a previous examination in the natural sciences, and a second examination in them proper to the medical department. When I assure you that for twenty years no medical student at Giessen visited the laboratory, this is a full and sufficient proof of what I say. But immediately after the examination was introduced, the students pursued their studies with zeal and ardour." In the magnificent halls of Oxford and Cambridge, men the most eminent in the various departments of law, political economy, history, and natural science, lecture, too often, almost to empty benches. It is not that the pupils are ignorant of the great value of the subjects lectured upon—quite the reverse. Yet they must not attend to them, because they will not tell upon their degree. A brighter day for educational labours was opening upon them, if the members duly supported the views displayed at the meeting.

The members and delegates of the institutions dined together, when the chief subject of the morning's discussion formed the prominent theme of the evening's speeches; in the course of which,

Archdeacon Wigram expressed the great pleasure which he felt, as a minister, in seeing the reception given to Mr. Chadwick's statements by the meeting, and to the confident expectations held out that local patronage would be abandoned, for, apart from the higher educational interests which were involved, it held out the cheering prospect of relief from local party feeling, and great moral and social improvement.

CLOTHING AND OTHER PRODUCTIONS OF CHINA.

(From the *Daily News.*)

Some packages were received by the Manchester Chamber of Commerce, on Friday, of an interesting character, containing clothing and other productions, forwarded by Sir John Bowring, from China. They were accompanied by some correspondence of an explanatory description, prefaced by two letters, one from Dr. Lyon Playfair and the other from Sir John Bowring. The first of these two letters is addressed to Thomas Boothman, Esq., secretary of the Manchester Chamber of Commerce:—

"Department of Science and Art, Marlborough-house, London, August 16, 1855.

"Sir,—In consequence of a correspondence entered into between Sir John Bowring and some of the manufacturers in Manchester, it was resolved to collect specimens of the ordinary clothing worn by the population in several of the important districts of China to which access could be obtained. This collection, along with certain dye-stuffs and raw materials, has been forwarded to this country by Sir John Bowring.

"I am directed by the Lords of the Committee of Privy Council for Trade to transmit this collection, with copies of the correspondence relative to it, to the Chamber of Commerce in Manchester, in order that they may be inspected by persons interested in the export trade of China. The specimens of dye-stuffs and raw materials require further examination and identification before the descriptions upon them can be thoroughly relied upon, as in some cases they are obviously marked with descriptions inappropriate to the contents.

"I am to request that, after the collection and correspondence referred to have remained with the Manchester Chamber of Commerce a sufficient time for their examination, that you will kindly give instructions to transmit them to the Chamber of Commerce, Glasgow, where it would be desirable that they should arrive

before the 12th of September, in order that they may be examined by those persons who attend the British Association for the Advancement of Science, to be held in that town.

"The collection, after having been examined at Manchester and Glasgow, are to be returned to this department, in order that they may be made part of the general museum.

"I am, sir, your obedient servant,
"LYON PLAYFAIR."

The next letter, from Sir John Bowring to Lord Clarendon, explains the circumstances under which the collection was made—that of clothing being at the suggestion of the Manchester Chamber of Commerce, and that of waxes and other oleaginous substances at the request of the Board of Trade. The letters of the collectors, which are addressed to Sir John Bowring, lose much of their interest to the mere reader, because filled with references to the articles forwarded; the only means of inspecting which by the public at present are those pointed out by Dr. Lyon Playfair at Manchester and Glasgow. The following short extract from the list of goods forwarded will give an idea of the prices at which clothing is effected in China:—

Winter clothing for a man: 2 white cotton shirts, 880 cash; 2 pairs white cotton trousers, 680 cash. [100 cash is equal to 3½d. and 4-14ths of a farthing English.] Summer clothing: 1 grass cloth shirt, 350 cash; 1 pair grass cloth trousers, 280 cash; 2 cotton head wrappers, 240 cash.

Clothing for a woman in the winter: 1 blue cotton gown, 1,000 cash; 2 white cotton shifts, 980; 1 pair white cotton trousers, 380; 1 pair grass cotton trousers, 480; 1 blue cotton petticoat or apron, 620 cash. Summer clothing for a woman: 1 grass cloth gown, 760; 1 grass cloth shirt, 660; 1 pair black grass cloth trousers, 400 cash. Other female clothing: 1 black grass cloth petticoat, 580; 1 pair foot bandages, 70; 1 pair ankle covers, 120; 1 pair of red embroidered shoes, 400 cash.

The following are further extracts from the correspondence, containing some interesting facts:—

No. 21 is a letter from Mr. W. Raymond Gingell, officiating vice-consul, dated Foochow, May 26, 1854, and addressed to Sir John Bowring. It accompanies specimens of cotton garments worn by the laborious classes of Chinese in that district, namely, complete suits of male for summer and winter, as also of female attire, the colours being those ordinarily worn, and contains the following observations:—The cloths made use of in the above specimens are brought principally overland from Suchow and Tsun keang, in the Keanghan province. In former years the transit was effected by vessel, but the sea being so infested by pirates, resort was had to overland carriage, and this has triflingly increased the price. According to information collected from a toll-house, upwards of one million bales annually pass the customs, imported into this city for local consumption, and for distribution among the several prefectures and districts southwards, which all derive their main supply from Foochow. The prefectures and districts northwards are supplied direct from Suchow and Tsing Keang. Each bale contains 20 pieces, and each piece varies in length according to the hong from which it is purchased, each hong having its own determined length, varying however from 19 to 22 covids. Supposing, therefore, each piece to measure 20 covids, 400,000,000 covids of cloth would be the quantity annually comsumed at and about Foochow. The shop measure (as distinguished from that in use by tailors, and the one employed by masons, &c.) is $11\frac{7}{8}$ inch. Native cloths are about an English foot in breadth, three lengths of cloth, each of three covids, would thus equal one yard of shirting, so that the amount disposed of becomes reduced to 44,444,444 English yards. This at first sight appaars large, but the quantity is far from excessive, when the enormous population is taken into account. This is the average annual quantity said to pass the customs, though at the same time it is asserted that nearly one-half as much again finds its way to Foochow without being reported for duty. I cannot arrive at any conclusion as to the proportionate quantity of pieces brought into this city ready dyed; but it is affirmed the greater portion is imported in an unbleached state, red being dyed at Hinghwa, green, blue, and purple, at Foochow. Those brought from Suchow are said to be of a superior dye, and to be of much higher price. Red cloth is sparingly worn by women for petticoats, and by young children, and green is in use by women and children for trousers and frocks. The laborious classes seldom employ white or unbleached cloths in their attire, the principal reason alleged being that the colour so readily soils. A few of the more respectable class make use of foreign long cloths, but this is only to a limited extent. The labouring classes never use it, it being both too white and thin, and possessing neither the durability nor the warmth of their own tissues. I cannot learn the proportion in which the different colours are consumed, but white, blue, and purple, are most in vogue; the white (of which the largest quantity is said to be consumed), however, being confined almost exclusively to the more respectable classes of the community.

A second letter from Mr. Gingell (No. 29), dated the 29th of June, 1854, gives the following information:—1. The Chung peh lá Shoo, "insect white wax tree," is found in the provinces of Szechnew, Yunnan, Kweichow; the first named, however, is said to be the principal market whence the wax is obtained, but it finds its way into the several other provinces from all three. After searching inquiry no information respecting the tree or the shrub it feeds on, the manner in which the secretion from the insect is collected, and subjected to manipulation, the quantity of wax produced, &c., is procurable at Foochow; neither can specimens of the insect, or of the leaves or berries of the tree be obtained. A small quantity, one tael weight, of the wax, as sold in the shops, is herewith forwarded. The price per tael is 70 copper cash, or about 5 cents. The principal use to which it is here applied is to give a casing to candles, and to impart a glazed surface to note paper. A short description of the tree, and of the insect termed peh la chung, is found in Khanghe's Dictionary: "The chung peh lá tree is an evergreen, and gives forth a white flower in the fifth moon, which yields berries in profusion. The insect is as large as a flea or louse; it gradually creeps throughout the branches or stems, sucks the juice of the leaves, and then ejects a secretion from its mouth. The deposit is scraped off, and when subjected to heat yields wax. 2. Tung Yew.—This oil is produced from the fruit or berry of the tung tree (Dryandra Cordifolia Jatropha Curcas Morrison Dick). The tree grows on mountainous situations; its leaves resemble somewhat those of the woo tung tree (remarkable in China for the regularity of shedding its leaves, and used for making musical instruments), hence its name. The fruit is about as large as a horse chesnut, and contains four or five kernels. The oil when expressed has a disagreeable odour, and if swallowed, produces vomiting and purging. It is not employed as a medicine. Worked up with lime, it is used as a putty to caulk vessels, and is an ingredient in all paints and varnishes. When burnt, the soot from the smoke makes a fine ink. In consequence of its disagreeable properties, it is not employed as an oil for lamps, except by the very poor. Price per catty, 68 copper cash. 3. Tsac Yew.—This oil is expressed from the seeds of this vegetable, a sort of small cabbage, which is grown in a wet sandy soil, and which in season is largely consumed as a vegetable. The oil is used for lamps and in making candles, as also for frying and other culinary purposes. The price is per catty, 96 copper cash. 4. Cha Yew, commonly but erroneously believed tea oil. The leaves and berries, though much larger, resemble in shape the leaf and seed of the tea plant; hence its name. It is plentifully grown on the mountains around Foochow. Its uses are identical with those of the Tsac Yew. Price per catty, 88 cash. 5.

Kin Yew.—The berries of the tree from which this oil is obtained are round and white, growing in clusters. They ripen in winter, after the leaves have fallen. This is a concrete oil. The berries are collected by the villagers, and submitted to a boiling process. The oil is used for making candles, which are burnt in winter, the great heat of summer softening them; hence are they frequently coated with wax to prevent guttering. The tree is very common in all parts. Price per catty, 160 cash. 6. Ma Yew; Hemp-seed Oil.—The seeds are ground to a pulp, and boiling water poured on it, when the oil rises. Its principal use is in culinary purposes. From its agreeable odour the wealthy burn it, as also because it gives a brighter light. It is likewise used in making adhesive plasters. Its properties are said to be cooling. Price per catty, 224 cash. 7. Hwa Sang Yew, or oil from the ground nut.—Its principal use is for lamps. If swallowed it produces purging. Price per catty, 96 cash. 8. Pe Ma Yew; Castor Oil.—Is not made in Fokien province. Its principal use is to mix with vermillion for giving seal impressions, and in making adhesive plasters. Price per catty, 112 cash. With the exception of castor oil, all the above-named oils are common at Foochow. At this season of the year I am unable to procure any oil nuts or oil berries. As regards wax berries, I cannot learn that this neighbourhood produces a single description.

A letter from Mr. Gingell, August 5, 1854 (No. 36), gives the following information in reference to the art of dyeing in China, obtained with much difficulty:—1. Cloth to be dyed a deep black undergoes 18 dips, seven of these are in an infusion of an esculent root named shoo lang, the remaining in a solution of Prussian blue. The cloth is first dipped four or five times in the solution of Prussian blue to impart a ground colour; it is then alternately dipped in the shoo lang and Prussian blue solutions until the colour is perfected. As more labour is required in dyeing this colour, the price of the cloth is dearer. Each piece of 20 covids long pays 360 copper cash for dyeing expenses. When a purple blue is required the cloth is put into an open-bottomed vessel, having bars and a cover, and subjected to steam, which process changes the deep black to a purple blue. The price of shoolang is 26 copper cash per catty.—2. A deep red. The cloth must be of a white colour, and is dipped into a solution of turmeric and hwae hwa (proportions not ascertainable) to give a ground colour. After it is dried, lye water and an infusion of woomei (a species of black plum) is poured upon Hung hwa in order to extract its juice, and in this liquor the cloth is dyed. Deep or light red is produced according as the quantity of the hung hwa used is more or less, and according to the number of dips. The price of the hung hwa being comparatively high enhances the cost of cloth of a red colour. Price of Hwae hwa at Foochow, 96 copper cash per catty. Price of Woo Mei, 48 copper cash per catty. Price of Hung hwa, 1,362 copper cash per catty.—3. Green colour. The cloth is dipped and dried alternately in a solution of luhtang several times, after which an infusion of hwae hwa and alum (proportions not known) completes the green colour. The winter is the season considered best for dyeing green Price of luhtang, 90 copper cash per bundle.—4. Blue colour. Prussian blue is kept in water until it ferments. One dip in this liquor will then impart a light blue, and if a deeper shade is required, four or five dips more will give it. The best indigo is said to be brought from Ting Chow prefecture in Fokien, the next best from Formosa. Price per catty 128 copper cash.—5. Purple colour. A blue or green grounding is required; hence do the Chinese distinguish cloth of this colour into blue purple and green purple. A solution of sapanwood is said to impart this colour.—6. Yellow colour. The cloth is dipped several times in an infusion of turmeric, and the colour brought out by dips in an infusion of hwae hwa with alum. Price of turmeric 80 copper cash per catty. A deep black colour is sometimes produced by a solution of coarse sugar or molasses, in which iron filings are boiled for a long time, some astringent bark being thrown in. This is a cheaper mode, but the durability of the cloth is destroyed. Satins and silks are not dyed at Foochow, but the colours of faded tissues of this nature are badly re-dyed by the above processes. Besides the hwae hwa being used in dyeing cloths it is largely employed at Foochow to impart to tinned-leaf foss paper a yellow hue in imitation of gold. Alum is added to an infusion, and the surface of the paper painted with a brush.

The following remarks by Mr. J. A. F. Meadows, interpreter in charge at her Britannic Majesty's consulate, are appended to a report on the cotton clothes worn by the male and female population in the Ningo district:—The women of the labouring men wear blue inner garments six months, and white cotton inner garments three months in the year, and black or green outer dresses nine months in the year. The green cotton clothes are considered a finer dress than black, but owing to their being easily dirtied, they are less worn than black cotton clothes. About 20 per cent. of the women of labouring men wear green dresses of the kind mentioned about nine months of the year. Green cotton cloths are never worn as chemises or shifts. About 10 per cent. of the women of labouring men wear white cotton cloth under garments during three months of the year, blue inner garments being the kind usually worn. During the three hot summer months the women of labouring men wear a coarse kind of blue or white grass cloth chemises and blue grass cloth trousers. These two articles of dress form all the clothes they wear in the hot weather. About 50 per cent. of the labouring male class wear blue cotton shirts and trousers; 40 per cent. wear white cotton cloth shirts and trousers during nine months of the year. Each shirt, man's and woman's, and each gown and jacket, have attached five brass buttons. In the clothes now sent there are two kinds of buttons used, those made at Souchow and those made at Canton. The Souchow kind is sold for 14 cash per set of five buttons, and the Canton kind is sold for 80 cash per set of five buttons. Those men and women who cannot afford to supply themselves with grass cloth garments for summer wear during three months of the year, use foreign long cloth, generally grey long cloths dyed a light blue colour, dyed in China. The dark blue cotton cloth is coloured in the following manner:—White cotton cloth is dyed 12 times, and each time kept in the dye about 10 minutes. The light blue cotton cloth is coloured by dyeing white cloth six times, and each time kept in the dye about ten minutes. The dye for forming blue cotton cloths is composed of 660lbs. of fresh water or rain water, 133⅓lbs. of Chekeang or Formosa indigo, and 7lbs. of cockle-shell lime. These three substances are put into a cauldron, and after they have boiled together for an hour, the preparation is considered fit for dying cloth. 132⅓lbs. superior Chekeang, or Formosa indigo is sold sold at Ningpo for ten thousand copper cash. The black cotton cloth is sold in the following manner: white cotton cloth is first dyed a light blue colour, then it is boiled in a preparation made from the fungus or excrescence of a tree, which fungus is named Pei tsye, 2lbs of which is put into the cauldron. After the cloth is dry, one ounce of green vitrol is put in a cauldron filled with cold water, and then put on the fire with the cloth in it, till the water just begins to boil, when the cloth is taken out and dried and washed. Six ounces of papnan-wood is now put in a cauldron filled with water, when the cloth is put in it and boiled for four hours, after which it is dried. Five ounces of rice or flour are put into a cauldron and dried or burnt black; water is then added and boiled till the water is quite black, when the water is strained from the rice or flour. The black water is again put in the cauldron with the cloth, and boiled for one hour, and then the cloth is dried. After this last operation the cloth is of a black colour, and considered fit for use. The green cloth is coloured in the following manner:—A piece of white cotton cloth, 1,166⅔ feet English in length, 1¾ feet in breadth, requires the fol-

lowing mixture to dye it a green colour: 41¾lbs. avoirdupois weight of hwae hwa, 8⅓lbs. avoirdupois weight of alum, and 666⅔lbs. avoirdupois weight of water. The above quantities are boiled together in a cauldron for six hours, when the mixture is in a condition to dye cloth. The cloth is now put in the cauldron, and boiled for four hours, and then sun-dried. It is afterwards boiled and sun-dried once or twice more, as the darkness of the green colour may be required.

Home Correspondence.

SANITARY APPLICATIONS OF CHARCOAL.

SIR,—In reference to the sanitary applications of charcoal, permit me to call the attention of the readers of the *Journal* to the following extract from the letter addressed by Dr. Sutherland, Chief Sanitary Commissioner in the Crimea, to Lord Shaftesbury and Sir James Clark:—

"I had almost forgotten about the peat charcoal you refer to.

"We use three deodorizing substances—charcoal, lime, and sand or gravel; we have tried them all. Peat charcoal acts extremely well, and in small quantity. It is, therefore, the best for certain purposes, as, for instance, for deodorizing in the trenches and in the camp, where carriage is an object. Damp or wet immediately destroys its qualities. Lime acts very well, and I think best when wet.

"Sand or gravel, for certain purposes, is as good as either. Dr. Paris first suggested it to me. A large quantity is required, and therefore its use is limited by carriage.

"We used it alone for the worst nuisances—namely, the horrible marsh at the head of the harbour. Six inches of sand spread over it entirely deodorized the soil.

"Any of these substances would, I believe, act as disinfectants, if a proper quantity were used, or, at least I presume so, but I suspect that bulk has more to do with disinfection than chymical composition. Peat charcoal in any ordinary quantity is certainly not a disinfectant; it stops smells, and that is all.

"I may give you the following conclusive experiment:—The steamship *Chester* arrived here several weeks ago laden with charcoal; she lay some weeks in the harbour, close to the wharf, and not far from large accumulations of foul matter, which had been covered up. She began to discharge her cargo in sacks, which were piled up close to her stern, so as to form a lofty wall on the quay. The surface of the quay was covered with charcoal dust; the same dust pervaded the ship and covered the men; so perfect was the deodorizing effect that there was no smell either in the ship or near it, although usually the air was very foul there. In two days six cases of cholera appeared on board, of which five died. We sent the ship outside at once. There were five subsequent cases of diarrhœa, but all recovered; a ship lying next to the *Chester* had no disease.

"The fact is certain and curious, and is confirmed, though not in so striking a manner, by all our experience here. It would, I think, be safe to disuse the word "disinfectant," because it leads to undue expectations, and might lead to neglect of other measures."

The views expressed by Dr. Sutherland are not in accordance with those of Dr. Stenhouse and Dr. Forbes Watson, as given in the last two Journals of the Society.

How far the experiment detailed can be considered "conclusive," as the Doctor confidently asserts, appears to me to be questionable. I am not saying he is wrong. It may turn out that he is quite right. The subject is very important, but it requires to be investigated with somewhat more care than it appears the Doctor has hitherto devoted to it.

The Doctor speaks of his views as "confirmed throughout in so striking a manner by all our experience here." After the previous specimen of loose generalization, I confess to little faith in the Doctor's "experience."

The Doctor speaks highly of "lime" as a "deodorizer." Others doubt it. Why cannot we have carefully conducted experiments to settle these important points?

There is plenty of opportunity, which ought not to be lost.

NEMO.

WHAT IS FOOD?

SIR,—There are many sides to most subjects, and amongst others to the subject of food, of which we have lately heard so much as to its adulteration. As to the morality of a vendor selling a noxious substance under the pretence of its being nutritious, there can be but one opinion, any more than of the fact of selling fourteen ounces weight under pretext of its being a pound avoirdupois, being plain cheating. But to begin at the beginning, we must first settle the question of "What is food?" and thereupon up comes the proverb, "What's one man's meat is another man's poison." Some people eat arsenic in considerable quantities, and if not exactly food, they find it conducive to an enjoying state of existence. Certain tribes of Indians eat a peculiar kind of earth, which if introduced into our workhouses as food would raise an outcry far and wide. In some countries seaweed is food, in others it is manure for land. On the Western coasts of the Pacific the echinus, or sea urchin or hedgehog, is a most delicate shell-fish: in England it is regarded with aversion. Putrid blubber agrees very well with the strong stomach of a Greenlander or Esquimaux: here we use it only for oil. The Bermudians eat whale's flesh, which certainly would be thought a very coarse kind of beef in Leadenhall-market. Originally food consisted only of the productions of nature, unchanged by art, save in cooking. A very large proportion of our food now consists of artificial preparations, or the productions of nature chemically altered. The mandioca root in its natural state is poison; manufactured it becomes arrow-root. Raw potatoes are considered a poisonous substance; but a Frenchman once taught me on the Equator what a very pleasant salad can be made of raw potatoes, in thin slices, and the conviction spread and increased mightily till all the olive-oil was consumed.

It is a probable thing that as our analysis grows into synthesis, many new varieties of food will be produced artificially. But it would be difficult to persuade people to eat them knowingly. Handy Andy, in Lover's tale, thought stewed leather breeches very fine tripe till he lighted on a button, which suddenly convinced him it was unwholesome food; and Sir Joseph Banks—so says Peter Pinder—did not think fleas equal to lobsters, though of the same genus. The Berlin philosophers have for many years been trying to persuade the community that horse-flesh is good beef—unsatisfactorily; and amongst civilised communities it appears to be chiefly in France that people voluntarily eat cats, both as a relish and a vengeance, if we may trust the reports of the Tribunal of Correctional Police; though scandal has long accused innkeepers both in France and Spain of thus feeding their guests as a substitute for rabbits. The three married ladies who lately figured in a trial in Paris ought assuredly to visit London to reap the abandoned spoils of our cat-skinners, who take the shell and leave the kernel. The French are chemists as well as cooks, and waste no food. They have no Mr. Goldner to take charge of their putrid meat. They know better how to deal with it, how to get rid of the putridity and retain the nutritive portion. And there seems no reason why putrid meat should be thrown away if it can be converted into wholesome food. If fetid potato oil can be converted into a delicious scent akin to attar of roses, we may very well imagine that the partridge or venison bouquet may be obtained from other kinds of flesh. It is said that a pair of ladies' gloves have ere now made a ragout; and there is an hiatus in the parchment specifications at the Patent Office caused by an unlucky boy who changed them away for tarts, in order that they might

be stewed down and converted into calves'-foot jelly. The mechanical problems written and graven on them were doubtless not precipitated on the delicate palates of the ladies or gentlemen consuming them at Almack's or elsewhere. It was but carbon gathered by the sheep in the shape of grass from the earth's surface—kid gloves in another form. Possibly chemistry will ultimately enable us to make kid gloves and parchment without troubling goat or sheep for them, and artificial gelatine will become a substitute for calves' feet. It is probable that even now we occasionally eat old wool and hair in our gravy soups as well as make it into what is facetiously called "felt cloth"—the fibres being glued instead of felted together, and in process of time we may prepare gelatinous tubes analogous to wool and hair from carbon converted into gelatine. It certainly seems odd that a man's coat should be convertible into his dinner; but "Imperial Cæsar," according to Hamlet, underwent as strange changes. "Once," say the annals of the Parisian Octroi, it was suspected that the town revenues were defranded by large entries of smuggled milk. Searches were made, and though it was clearly demonstrated that three times the quantity was consumed that paid duty, it was nevertheless not smuggled, and the inference was that it was manufactured largely, as well as diluted. And after all, may not artificial milk chemically well made be better than natural milk unnaturally made from diseased cows by bad artificial food? Are lemon lozenges made from sulphuric acid less pleasant or wholesome than those made from putrid fruit, possibly owing its colour to sulphur?

That the time will come when we shall cease to entomb the lower animals in our stomachs, by the substitution of better food, is highly probable. Nor is it yet demonstrated to what extent the civilisation of man may enable him to improve upon his culinary vegetables. But if a chemist were to bring into the market an artificial food containing the same chemical ingredients as our natural food, but not directly animal or vegetable, the chances are that he would be scouted. He must, therefore, pretend that he has extracted it from beeves, or muttons, or goats, or some known vegetables. He may ring the changes on Ervalenta and Revalenta to make the sale of lentils or bean-meal prevalent-er; but were he to burn a sack of meal and gather back the gases in a tangible shape as food, he would be accused of poisoning, though if he calls it medicine, and advertises it as essence of sea air, he may transact business at pleasure.

There is danger of people being poisoned by quacks; there is danger that the lucre of gain may induce men to sell plaster of Paris for flour; but there is also a danger of stopping progress. Possibly there are more things in the food trade than our philosophy has yet dreamed of,—that some of our adulterated food may be better than the pure. Coal oil is fast taking the place of whale oil as a lubricant for machinery, but nobody professes to sell coal oil direct, save the manufacturers. Corn spirit artificially flavoured matches the grape spirit, and artificial wines grow to be undistinguishable from the genuine. Each day adds something to our knowledge of the aromas and to our power of synthesis, and the skilful chemist will so closely imitate the various articles of food that analysis will fail to distinguish the artificial from the natural. What are called our genuine wines are, in fact, very artificial productions. The most delicate wines do not bear transport from the place of their production, and it is the peculiar province of the chemist to produce them artificially, just as he produces delicate perfumes. But chemists and perfumers will not tell of these things. They will try to sell their artificial commodities under the name and at the price of the natural ones. And the more the outcry is raised against adulteration, the more secret will they keep their proceedings. This is not desirable any more than the adulteration.

The adulteration prevalent in wholesale and retail shops direct is but a small part of the matter. The indirect adulteration is the great quantity. When we make diseased meat by unwholesome feeding and lodging, we engender largely diseases that are conveyed to the human beings who eat it. Consumptive cows, and jaundiced sheep, and born diseased calves, and measly pigs, and manure-fed poultry, are possibly worse than the adulterators of the minor articles of food. And the diseased vegetables and fruits, with their health also destroyed by filthy feeding, subject in succession to epidemics of various kinds—apple-rot, potato-rot, grape-rot—are not these also adulterations growing out of the desire of gain, producing crops of quantity, and not of quality.

To point out to the public what is wholesome food and what is not, and the modes of treating unwholesome food to make it wholesome, should be part of the function of the Board of Health quite as important as pointing out what air they should breathe. This is precisely the work for which Dr. Southwood Smith was fitted; and why he should be pensioned off with a bare maintenance while able to work for an adequate salary, is one of those things that puzzle people not behind the scenes. He really did the essential work of the Board of Health, and established the principles of their sanitary code.

To dictate to people what they shall or shall not eat and drink, would be a hopeless task. All that can be done is to warn them of the evil, and point out immoral vendors. If they refuse to be warned they must kill themselves. No government can take upon itself to watch its people like so many children.

I am, Sir, yours faithfully,
W. BRIDGES ADAMS.

6, Adam-street, Adelphi, August 6, 1855.

THE VINEGAR PLANT.

SIR,—My sisters constantly brewed their vinegar, at first with, but afterwards without, a vinegar plant. Into a stone jar, holding a gallon of water, a quarter of a pound of raw sugar was stirred, the jar tied down and placed beside, but not near the fire. About the heat at which mushrooms grow on summer mornings, vinegar begins at the hearthstone.

From three to six weeks would elapse before the mould appeared on the sugar and water, and it began to turn sour. Once changing, it required attention to remove the mould, and appropriate the vinegar before it became rankly acid and unfit for use. The mould or plant also, which at first, from a delicate surface, threw down long fibrous threads into the vinegar, was in danger of growing so fast and so rankly, as to fill the whole jar with a powdery overgrown mould, only fit to throw away.

The only difference betwixt vinegar made without the "plant" and with it, was that one was ready more quickly than the other.

The "plant," though much insisted on by the vinegar maker, appeared to me to be merely the accident or product of the fermentation, and to have nothing whatever to do with it; the greater quickness with which vinegar was produced on its introduction to fresh sugar and water being due to the spongelike absorption of a portion of real vinegar, with which it quickened the acetic fermentation. On this I speak modestly, as merely my own impression.

I remain, yours, &c.,
SARAH ELWINS.

Staines, Middlesex, August 29, 1855.

THE VINEGAR PLANT.

SIR,—Having noticed in your *Journal* of last week an inquiry respecting the vinegar plant, I take the liberty of stating my knowledge of the same.

Two years ago I learnt that the origin of the plant was derived from stale beer. A vessel containing some beer had been standing some time unnoticed, when, on inspection, it was found to be covered with a species of fungus of a light brown colour, and semi-transparent. I have used the plant many times.

I mixed two ounces of sugar and a quarter of a pound of treacle together, with five half-pints of clean water; the

odd half pint is to allow for evaporation. Put this in a clean pan about four inches deep and eight inches over, let it stand for six weeks, and at that time another plant is produced on the underside of the original, which will easily separate.

I have been informed that the parent plant will produce twelve others, and then, as it were, die, but I cannot vouch for the truth. We have many plants here in Portsmouth, introduced originally by the Manchester men coming to work at Portsmouth Dockyard.

I dare say if your correspondent required a plant, I could send him one by paying the cost of carriage.

I am, sir, yours, &c.,

L. M. GREEN.

15, New-row, Landport, Hants, Aug. 31, 1855.

PORTABLE LATRINES.

SIR,—I am glad to find that some movement is taking place in the matter of portable cesspools. Mr. Bird is fitting some up for the camp at Aldershott, a district which it would puzzle the advocates of water transport to accommodate, even with land ready at all times and seasons to receive the highly-diluted guano. I cannot find what it is proposed to do for dilution storage in those seasons when the land does not require it, but I can readily imagine that without increase of weight and bulk by water, storage may be practicable when deodorised.

Mr. Bird's arrangement is an oblong tank of wrought-iron, about four feet long, twelve inches wide, and eighteen inches deep, widening greatly below. It stands on four feet. There is a folding cover and a swinging handle, so arranged that the vessel can tilt when required. A pair of shafts, or a single shaft, or a pair of wheels and an axle, form a lever by which a man can lift the vessel without touching it, and carry it away. Mr. Bird proposes another arrangement for applying disinfecting powder or fluid, by a handle similar to the ordinary closets.

If this be good for Aldershott, it is good also for other districts where water is scarce, and also when it is desirable to preserve a river from pollution. This is precisely the kind of arrangement that it would be desirable for an agricultural company to take up, and I shall be glad to hear that it has been done.

Our French allies are more precise than ourselves. Their Exhibition has given rise to a kind of vessel called a separator, in which the fluids and solids being kept apart, much poisonous chemical action is prevented, and the bulk of the solids is very materially reduced. This arrangement is well worth the attention of Mr. Bird in his further improvements at Aldershott.

I am, Sir, yours &c.,

W. BRIDGES ADAMS.

August 28, 1855.

DECIMAL COINAGE.

August 8, 1855.

SIR,—I have read with much interest the various articles in your *Journal* on decimal coinage. I perceive that there are a great many claimants for the essentially same plans; yet there is one plan, which I think might be adopted with advantage, that has not yet been proposed, and as I find that you are preparing "A List of Authorities on the Decimal Coinage Question," I would feel obliged by your allowing me to bring my plan before the public in your pages.

When the Committee had made its report, I concluded that the pound unit had taken such hold, and had got such a start, that to oppose it was to oppose decimal coinage altogether, and in a small work which I wrote on the subject, under the name of "Aslits,"* I advocated the adoption of the pound unit. I now find that the pound has not received that favour I thought it had, and have no scruple, on that head, in now bringing forward another competitor.

* A Straight Line is the Shortest.

The unit I propose is one already as familiar to us "as household words." Considerable sums are daily paid in it, to barristers, doctors, authors, painters, sculptors, civil engineers, architects, surveyors, special jurors, witnesses, &c. These are all paid in guineas of 21s. each, which is the unit I propose. One, two, three, and four guineas a week, are much more common rates of pay amongst workmen and their foremen than one, two, three, or four pounds. The guinea contains 1,008 farthings; the pound 960: in one case only 8 more than the required number, in the other 40 less; in one case 4 per cent., in the other $\frac{1}{4}$,—the pound error being five times as great as the guinea error. In paying tolls below threepence in pound mils, the receiver loses four pounds in the hundred; in guinea mils he gains sixteen shillings. In one case the receiver sustains a serious loss, and the payer receives no perceptible gain; in the other the receiver has a small gain, and the payer a still less perceptible loss. The guinea and pound are reciprocally convertible with great ease. To turn guineas into pounds, divide by two, place the quotient one place to the right, and add.

EXAMPLE.

Guineas.—987654321
4938271605

Pounds.—1037037037·05

Pounds may be converted into guineas very easily after considering the following table—in many instances even at sight.

£	G.	£	G.
105 =	100	1155 =	1100
210 =	200	1260 =	1200
315 =	300	1365 =	1300
420 =	400	1470 =	1400
525 =	500	1575 =	1500
630 =	600	1680 =	1600
735 =	700	1785 =	1700
840 =	800	1890 =	1800
945 =	900	1995 =	1900
1050 =	1000	2100 =	2000

If we look at the numbers in the £ column, we shall find that, leaving out of account ciphers and their effect, the figures in the first part of each number are producible by multiplying the figures in the latter part by two. If we have numbers represented by *ab*, *abc*, *abcd*, where $c = 10\,d$, $b = 10\,c$, and $a = 10\,b$, *by position*, and not multiplied into each other as in algebra, then, if $2\,b = a$, *ab* pounds = to a guinea; for instance, 84 pounds = 80 guineas. If twice $bc = a$; *abc* pounds = a guinea; 525 pounds = 500 guineas. If twice $cd = ab$, then *abcd* pounds = *ab* guineas; 1,995 pounds = to 1,900 guineas. In these cases we have $2 \times 4 = 8$, $2 \times 25 = 5$, $2 \times 95 = 19$. This may be made clear by the following:—

19951785735845253152l pounds equal
19001700700805003002O guineas.

The figures over the cyphers multiplied by 2 give the figures to the left, and whenever that is the case, these figures being turned into cyphers, give the sum in guineas. A simple process may be derived from the above, which I will not stay to give here.

If we change the value of our large unit, or coin of account, in time to come the question will be continually arising, when reading history, "What was a pound?" We should provide for the question being answered in a simple manner.

If the pound be exchanged, it should be for a unit larger and not smaller. If the United States had had a national debt of £800,000,000, or an expenditure of £90,000,000 per year, as we have now, they would never have adopted a dollar. If the magnitude of a unit should bear any proportion to that of the operations involved with it, then is the pound too small, for only in money matters do we require to speak of hundreds of millions,

if we except distances greater than that of the sun from the earth.

The farthing is rather too small, which accounts for its limited use, and as, wealth increases, it will go out of circulation altogether, even amongst the smallest dealers, with perhaps the exception of tolls for cattle, which are fixed by Act of Parliament. The guinea unit would act favourably in both these respects, if only to a limited extent.

Allow me to say a few words on the general subject. Whatever unit be adopted, the inconvenience will be trifling in comparison to the benefits to be expected from being relieved from our present barbarous system. Whatever unit be adopted, the highest and lowest coins of account should be coins of actual and convenient circulation. It is not necessary that the inconvenience of the change should be a minimum; we must look to the future. The inconvenience of a change makes, in my opinion, but a small part of the whole of what should be considered. We leave our children a debt of hundreds of millions to pay, and I do not see why we should not put ourselves a trifle out of our way to give them the best means of reckoning and dealing with that debt. Let us not be too selfish in the matter. If proper means be adopted to introduce the change, and meet the difficulties, I maintain that within one month after the change the guinea would be pronounced the best unit that could have been adopted.

It is the largest unit proposed; it would enable us to pay every debt within $\frac{5}{10}$ per cent.; it would enable us to keep the whole of our 5,000 tons of copper coin until entirely worn out; it would leave us only one meaning for the word pound; it would entail the inconvenience of the change on those most competent to meet it—the very reverse of the case of the pound unit.

I am, Sir, your humble and obedient servant,
J. SIMON HOLLAND.

PATENT LAW AMENDMENT ACT, 1852.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette August 31st, 1855.*]

Dated 7th July, 1855.

1523. J. Gedge, 4, Wellington-street South—Photographic glasses. (A communication.)

Dated 10th July, 1855.

1537. F. Loret Vermeersch, Malines—Looms.

Dated 26th July, 1855.

1695. J. Beattie, 26, Hans place, Chelsea—Folding mattrass, hut, ambulance, &c.

Dated 2nd August, 1855.

1753. D. Airey and W. H. Lackabane, Paris—Rotary steam engines.

Dated 3rd August, 1855.

1755. H. H. Watson, Bolton le-Moors—Coke.
1764. C. Ritchie, New Palace yard, and G. Ritchie, Milbank-street—Cork and other materials for stuffing.

Dated 4th August, 1855.

1769. H. L. R. Perrot, Chaux de Fonds, Switzerland—Escapement for chronometers.
1771. E. Whiteman, Riverhead, Sevenoaks—Waterproof coats, boots, capes, &c.
1773. E. Hall, Dartford—Gunpowder.

Dated 6th August, 1855.

1775. J. Gedge, 4, Wellington-street South—Motive power. (A communication.)
1777. J. Avery, 32, Essex-street, Strand—Windlasses. (A communication.)
1779. F. A. Wilson, Islington—Portable cooking apparatus.
1781. H. A. Pradel, Paris—Twisting textile fabrics. (A communication.)

Dated 7th August, 1855.

1783. J. Hamnett, Broadbottom, Chester—Shuttle tongues.
1785. S. C. Lister, Bradford—Hackling and combing machinery.
1787. J. H. Johnson, 47, Lincoln's-inn-fields—Indiarubber. (A communication.)
1789. W. J. Murphy, Cork—Motive power.

Dated 8th August, 1855.

1791. W. Hopkinson, Huddersfield—Steam-engine boilers, furnaces, &c.
1793. W. Baron, J. Lang, and H. Liversage, Blackburn—Winding, sizing, and dressing yarns.
1795. J. C. Haddan, Cannon-row—Rifled and other cannon.
1797. P. A. Devy, 10, Old Jewry-chambers—Hair fabrics. (A communication.)

Dated 9th August, 1855.

1799. J. Sidebottom, Broadbottom, Chester—Shuttles and skewers for shuttles.
1801. E. Cooke, Balsall-heath, near Birmingham—Moulds for casting metallic furniture.
1805. G. H. Bachoffner, Upper Montague-street—Advertising.
1807. W. B. Adams, 1, Adam-street, Adelphi—Locomotive engines.

Dated 15th August, 1855.

1854. F. May, Tooley-street—Instantaneous light. (A communication.)

INVENTION WITH COMPLETE SPECIFICATIONS FILED.

1902. W. Pitt and E. T. Davies, Birmingham—Cornice poles and picture rods, and in rings and chains to be used in connection therewith.—22nd August, 1855.

WEEKLY LIST OF PATENTS SEALED.

Sealed August 28th, 1855.

831. Peter Armand le Comte de Fontaine Moreau, 4, South-street, Finsbury—Improvements in the production of a felted tissue applicable to replacing leather in the manufacture of cards.
1036. Robert Kanzow Bowley, Charing-cross—Improvements in boots and shoes and other coverings for the human foot.
1222. Richard Coleman, Chelmsford—Improvements in the construction of land rollers, and in implements for ploughing and breaking up or scarifying the soil.
1274. George Green, Mile-end-road—Improvements in sawing machinery.
1339. Samuel Coulson, Sheffield—Improvement in the preparation of sulphate of baryta, and in the manufacture of glass when sulphate of baryta is used.
1374. James Webster, Birmingham—Improved balance.

Sealed August 31st, 1855.

465. John Johnson, Bow—Improvements in temporary rudders.
469. John Woodley and Henry Herbert Swinford, Limehouse—Improvements in apparatus for indicating and giving alarm in cases of fire.
482. John Gledhill, Congleton, and Robert Gledhill, Halifax—Improvements in the preparation of silk, flax, and other fibrous substances, and in the machinery or apparatus employed therein, part of which is applicable to the preparing of wool for combing.
502. John Kennedy, Liverpool—Improvements in the manufacture of boots and shoes.
516. George Hazaldine, Lant-street, Southwark—Improvements in wheel carriages, and in the wheels thereof.
574. Edmund Johnson Mitchell, Bradford—An improvement in rollers employed in the washing of wool and linen, in the squeezing of sized cotton warps, and other like purposes.
1442. Frederick William Mowbray, Shipley, near Leeds—Improvements in looms for weaving.

PATENTS ON WHICH THE THIRD YEAR'S STAMP DUTY IS PAID. 1852.

181. William Edward Newton, 66, Chancery-lane—Improvements in governors or regulators for regulating the pressure of gas, as it passes from the main or other pipes to the burners.
238. William Gilbert Elliott, Blisworth—Improvements in the manufacture of bricks, pipes, tiles, and other articles capable of being moulded.
269. William Vaughan Morgan, Jewin-crescent—Improvements in the preparation of oils for the purposes of illumination and lubricating machinery.

Sealed 4th September, 1855.

483. Lewis James Paine, Camberwell, and John Ryan, Hatcham—Improved portable utensils, such as buckets, canteens, baths, and other similar waterproof articles for containing liquids, also applicable for portable life boats, buoys, or land marks, and other compressible articles.

WEEKLY LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Proprietors' Name.	Address.
3747	August 23.	A Reel	Edmund Israel	Milk-street, Cheapside.
3748	August 31.	A Plough	John Eddy	Kenford, near Exeter.
3749	September 3.	Powder Envelope	Goodall and Son, and Mould and Tod	Camden Town.
3750	,,	Tilbury Glove	Dent, Allcroft, and Co.	Wood-street, City.
3751	,,	The Expanding Envelope	Ths. and Godfrey Binns, jun.	Deighton, near Huddersfield.